



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/799,710 | 03/15/2004 | Shiro Katagiri | Q80253 | 8986 |
| 23373 | 7590 | 03/01/2005 | EXAMINER | |
| SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | BOYKIN, TERRESSA M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1711 | |

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

LD

| | | | |
|------------------------------|---------------------------------------|--|--|
| Office Action Summary | Application No. 10/799,710 | Applicant(s) KATAGIRI ET AL. | |
| | Examiner Terressa M. Boykin | Art Unit 1711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11-30-04</u> . | 6) <input type="checkbox"/> Other: ____. |

TS

Art Unit: 1711

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by *USPub 20020049270* see abstract, pages 2-5, table 1 and claims 1-6,

Applicants' claims are directed to a solution composition of aromatic liquid-crystalline polyester comprising a solvent, aromatic liquid-crystalline polyester, an inorganic filler, and a coupling agent having a boiling point of not less than 250 C., wherein a pH of water solution of the coupling agent is from 4 to 8.

Note that ***USPub 20020049270*** discloses an aromatic liquid-crystalline polyester solution composition comprising 100 parts by weight of a solvent (A) and 0.01 to 100 parts by weight of an aromatic liquid-crystalline polyester (B), wherein the solvent (A) is a solvent containing 30% by weight or more of a chlorine-substituted phenol compound represented by the following general formula (I): 1 wherein A represents a hydrogen atom, a halogen atom or a tri-halogenated methyl group, and i represents an integer of 1 or more and 4 or less,

a film obtained from the aromatic liquid-crystalline polyester, and a process for producing film. Specifically, the reference claims an aromatic liquid-crystalline polyester solution composition comprising 100 parts by weight of a solvent (A) and 0.01 to 100 parts by weight of an aromatic liquid-crystalline polyester (B), wherein said solvent (A) is a solvent containing 30% by weight or more of a chlorine-substituted phenol compound represented by the following general formula (I) as disclosed. The aromatic liquid-crystalline polyester comprises 30 to 80% by mole of a structural unit derived from p-hydroxybenzoic acid, 10 to 35% by mole of a structural unit derived from at least one compound selected from the group consisting of hydroquinone, resorcinol, 4,4'-dihydroxybiphenyl, bisphenol A and bisphenol S, and 10 to 35% by mole of a structural unit derived from at least one compound selected from the group consisting of terephthalic acid, isophthalic acid and naphthalenedicarboxylic acid.

The reference discloses in claim 6 that the composition further comprises 1 to 100 parts by weight of an inorganic filler (C) in addition to the solvent (A) and the aromatic liquid-crystalline polyester (B).

With regard to claims 2 and 3, the reference discloses that some examples of the repeating unit in the aromatic liquid-crystalline polyester include the following units but not limited to: aromatic hydroxycarboxylic acids; aromatic dicarboxylic acids; and aromatic diols. Specific examples include p-hydroxybenzoic acid, hydroquinone, resorcinol, 4,4'-dihydroxybiphenyl, bisphenol A, bisphenol,

Art Unit: 1711

terephthalic acid, isophthalic acid and naphthalenedicarboxylic acid.

With regard to applicants' claims 4, 5, 6, 7, 8, and 9, note that the aromatic liquid-crystalline polyester solution composition of the reference may be prepared in the form of an insulating solution composition by adding an inorganic filler. The inorganic filler used in the insulating solution composition may be a conventional filler and examples include inorganic fillers such as silica, alumina, titanium oxide, calcium carbonate, talc, mica and the like. Among them, silica is preferred. The silica includes various synthetic silica produced by wet method or dry method, crushed silica produced by crushing quartzite, fused silica, i.e., once fused silica or the like and other various products. The amount of the inorganic filler is preferably selected so that the content of the inorganic filler is 5% by weight to 70% by weight based on the total solid content of resin. The insulating solution composition may contain, if necessary, additives such as coupling agent, leveling agent, antifoam, ultraviolet absorber, flame retarder and the like, and pigments for coloring.

With regard to applicants' claims 10, 11, the reference discloses that the solvent used in the aromatic liquid-crystalline polyester solution composition is a solvent containing 30% by weight or more, preferably 50% by weight or more, more preferably 60% by weight or more and most preferably 70% by weight or more, of a chlorine-substituted phenol compound represented by the described formula (I). Examples of compounds include 2,4-dichlorophenol, 3,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, pentachlorophenol

and the like; 4-chloro-2-fluorophenol, 4-chloro-3-fluorophenol and the like; 4-chloro-2-bromophenol and the like, and examples of compounds wherein halogen atom is iodine atom include 4-chloro-2-iodophenol and the like. Other specific examples include 4-chlorophenol, 2,4-dichlorophenol, 3,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol and pentachlorophenol, with 4-chlorophenol being particularly preferred.

With regard to applicants' claim 12 note claim 13 of the reference states that the aromatic liquid-crystalline polyester solution composition may be applied on a substrate. Examples of said substrate include plastic substrate, ceramic substrate, metal substrate, film substrate and the like, and specifically, glass epoxy substrate, bismaleimide-triazine substrate, aramid fiber non-woven fabric substrate, liquid-crystalline polymer substrate, aluminum substrate, iron substrate, polyimide substrate and the like. Further, the reference discloses in claim 4 that the aromatic liquid-crystalline polyester film may be obtained by casting the aromatic liquid-crystalline polyester solution composition and removing the solvent .

With regard to claims 13 and 14 note abstract, claims 1-6 that the reference discloses that the composition may be used to produce a film. Methods for removing the solvent are not particularly limited and preferred method is evaporation of the solvent including evaporation with, for example, heating, vacuum, ventilation and the like. Among them, evaporation with heating is

Art Unit: 1711

preferred from the viewpoint of productivity and handling, and evaporation with heating and ventilation is more preferred. The heating is preferably carried out by pre-drying at 70 to 100 C. for 30 minutes to 2 hours, and then heat-treating at 180 to 250C for 30 minutes to 4 hours. Alternatively, an insulating layer can be produced by preparing a film or membrane from the insulating solution composition of the invention by a method described above and pasting said film.

Thus, the reference discloses a composition comprising the same components as claimed by applicants. Thus, in view of the above, there appears to be no significant difference between the reference and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Correspondence

- Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

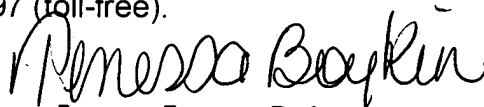
- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

Art Unit: 1711

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is (571-272-1700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

A handwritten signature in black ink, reading "Terressa Boykin". The signature is fluid and cursive, with the first name "Terressa" and last name "Boykin" clearly distinguishable.

Examiner Terressa Boykin

Primary Examiner

Art Unit 1711